

## CLAIMS

1. A mobile station employing an MT-TA Interface description defined by ARIB (Association of Radio Industries and Businesses) TR-T12-27.A02, said mobile station comprising:

5 a plurality of MTFs (Mobile Termination Function) (1, 2); and  
a TAF (Terminal Adaptation Function) (3) which is an adaptor portion between a TE (Terminal Equipment) (5) having an HMI (Human Machine Interface) and each of said plurality of MTFs; wherein

10 each of said plurality of MTFs is a wireless channel control part employing a different wireless communications method,

one of said plurality of MTFs (1), when receiving a handover request (IM1) from a corresponding network (7), transmits to another of said plurality of MTFs (2) and to said TAF (3) notifications (NT1, RQ1) that a handover procedure to said another of 15 said plurality of MTFs (2) is started,

20 said another of said plurality of MTFs (2), upon receiving said handover procedure start notification (NT1), communicates with another corresponding network (8) to complete a handover procedure on a wireless channel (IM2a through IM2d, IM3), and transmits to said TAF (3) a notification (NT3) that said handover procedure on said wireless channel is completed,

25 said TAF, upon receiving said handover procedure start notification (RQ1), pauses a communication with said one of said plurality of MTFs (1) (S3), and upon receiving said notification (NT3) that said handover procedure on said wireless channel is completed, switches to a communication with said another of said plurality of MTFs (2) (RP1, RP2, NT3, S5).

2. The mobile station according to claim 1, wherein  
said handover request (IM1a) includes information regarding a communication  
parameter between said TAF (3) and said another network (8) which is a destination,

5                   said communication parameter includes at least either information regarding a  
kind of a voice CODEC in said TAF, or information regarding a communication speed  
between said TAF and said another network (8) which is the destination,

                  said one of said plurality of MTFs (1) further transmits said information (NT1,  
RQ1) regarding said communication parameter to said TAF (3),

10                said TAF (3), after changing a setting regarding a communication based on said  
information regarding said communication parameter (S3a, S5a), switches to a  
communication with said another of said plurality of MTFs (2) (RP1, RP2, NT3).

3. The mobile station according do claim 1, wherein  
15                when said handover procedure on said wireless channel does not complete and  
fails, said another of said plurality of MTFs (2) transmits a handover procedure failure  
notification (NT2a) to said one of said plurality of MTFs (1),

                  said one of said plurality of MTFs (1), upon receiving said handover procedure  
failure notification (NT2a), communicates with said corresponding network (7) to execute  
20                a reverting procedure (S4b),

                  said TAF, upon receiving said handover procedure failure notification (NT3a)  
from said one of said plurality of MTFs (1), resumes a communication with said one of  
said plurality of MTFs (1) (S5).

25                4. A telecommunications method using a mobile station employing an MT-TA

Interface description defined by ARIB (Association of Radio Industries and Businesses)  
TR-T12-27.A02,

5 said mobile station comprising:

10 a plurality of MTFs (Mobile Termination Function) (1, 2); and

15 a TAF (Terminal Adaptation Function) (3) which is an adaptor portion between  
a TE (Terminal Equipment) (5) having an HMI (Human Machine Interface) and each of  
said plurality of MTFs; wherein

20 each of said plurality of MTFs is a wireless channel control part employing a  
different wireless communications method,

25 said method comprising the steps of:

(a) prompting one of said plurality of MTFs (1) to transmit to another of said  
plurality of MTFs (2) and to said TAF (3) notifications (NT1, RQ1) that a handover  
procedure to said another of said plurality of MTFs (2) is started, when said one of said  
plurality of MTFs (1) receives a handover request (IM1) from a corresponding network

30 (7);

(b) prompting said another of said plurality of MTFs (2) to communicate with  
another corresponding network (8) to complete a handover procedure on a wireless  
channel (IM2a through IM2d, IM3), and transmit to said TAF (3) a notification (NT3)  
that said handover procedure on said wireless channel is completed, when said another of  
35 said plurality of MTFs (2) receives said handover procedure start notification (NT1); and

(c) prompting said TAF (3) to pause a communication with said one of said  
plurality of MTFs (1) (S3) when said TAF (3) receives said handover procedure start  
notification (RQ1), and to switch to a communication with said another of said plurality  
of MTFs (2) (RP1, RP2, NT3, S5) when said TAF (3) receives said notification (NT3)  
40 that said handover procedure on said wireless channel is completed.

5. The telecommunications method according to claim 4, wherein  
said handover request (IM1a) includes information regarding a communication  
parameter between said TAF (3) and said another network (8) which is a destination,

5           said communication parameter includes at least either information regarding a  
kind of a voice CODEC in said TAF, or information regarding a communication speed  
between said TAF and said another network (8) which is a destination,

          said one of said plurality of MTFs (1) further transmits said information (NT1,  
RQ1) regarding said communication parameter to said TAF (3),

10           said TAF (3), after changing a setting regarding a communication based on said  
information regarding said communication parameter (S3a, S5a), switches to a  
communication with said another of said plurality of MTFs (2) (RP1, RP2, NT3).

6. The telecommunications method according to claim 4, wherein  
15           when said handover procedure on said wireless channel does not complete and  
fails, said another of said plurality of MTFs (2) transmits a handover procedure failure  
notification (NT2a) to said one of said plurality of MTFs (1),

          said one of said plurality of MTFs (1), upon receiving said handover procedure  
failure notification (NT2a), communicates with said corresponding network (7) to execute  
20           a reverting procedure (S4b),

          said TAF, upon receiving said handover procedure failure notification (NT3a)  
from said one of said plurality of MTFs (1), resumes a communication with said one of  
said plurality of MTFs (1) (S5).

25           7. A telecommunications system, comprising:

a mobile station (6) employing an MT-TA Interface description defined by ARIB (Association of Radio Industries and Businesses) TR-T12-27.A02;

5 a network (7); and

another network (8), wherein

said mobile station comprises:

a plurality of MTFs (Mobile Termination Function) (1, 2); and

10 a TAF (Terminal Adaptation Function) (3) which is an adaptor portion between a TE (Terminal Equipment) (5) having an HMI (Human Machine Interface) and each of said plurality of MTFs; wherein

each of said plurality of MTFs is a wireless channel control part employing a different wireless communications method,

15 one of said plurality of MTFs (1), when receiving a handover request (IM1) from said corresponding network (7), transmits to another of said plurality of MTFs (2) and to said TAF (3) notifications (NT1, RQ1) that a handover procedure to said another of said plurality of MTFs (2) is started,

20 said another of said plurality of MTFs (2), upon receiving said handover procedure start notification (NT1), communicates with said another corresponding network (8) to complete a handover procedure on a wireless channel (IM2a through IM2d, IM3), and transmits to said TAF (3) a notification (NT3) that said handover procedure on said wireless channel is completed,

25 said TAF, upon receiving said handover procedure start notification (RQ1), pauses a communication with said one of said plurality of MTFs (1) (S3), and upon receiving said notification (NT3) that said handover procedure on said wireless channel is completed, switches to a communication with said another of said plurality of MTFs (2) (RP1, RP2, NT3, S5).

8. The telecommunications system according to claim 7, wherein  
said handover request (IM1a) includes information regarding a communication  
parameter between said TAF (3) and said another network (8) which is a destination,

5           said communication parameter includes at least either information regarding a  
kind of a voice CODEC in said TAF, or information regarding a communication speed  
between said TAF and said another network (8) which is a destination,

          said one of said plurality of MTFs (1) further transmits said information (NT1,  
RQ1) regarding said communication parameter to said TAF (3),

10           said TAF (3), after changing a setting regarding a communication based on said  
information regarding said communication parameter (S3a, S5a), switches to a  
communication with said another of said plurality of MTFs (2) (RP1, RP2, NT3).

9. The telecommunications system according to claim 7, wherein  
15           when said handover procedure on said wireless channel does not complete and  
fails, said another of said plurality of MTFs (2) transmits a handover procedure failure  
notification (NT2a) to said one of said plurality of MTFs (1),

          said one of said plurality of MTFs (1), upon receiving said handover procedure  
failure notification (NT2a), communicates with said corresponding network (7) to execute  
20           a reverting procedure (S4b),

          said TAF, upon receiving said handover procedure failure notification (NT3a)  
from said one of said plurality of MTFs (1), resumes a communication with said one of  
said plurality of MTFs (1) (S5).

25           10. A mobile station, comprising:

a plurality of wireless channel control parts (15, 16); and  
a voice communication control part (17) for controlling a voice CODEC (10);

wherein

each of said plurality of wireless channel control parts (15, 16) is a wireless  
5 channel control part employing a different wireless communications method,

one of said plurality of wireless channel control parts (15), when receiving a  
handover request (IM1) from a corresponding network (7), transmits to another of said  
plurality of wireless channel control parts (16) and to said voice communication control  
part (17) notifications (NT1, RQ1a) that a handover procedure to said another of said  
10 plurality of wireless channel control parts (16) is started,

said another of said plurality of wireless channel control parts (16), upon  
receiving said handover procedure start notification (NT1), communicates with another  
corresponding network (8) to complete a handover procedure on a wireless channel (IM2a  
through IM2d, IM3),

15 said voice communication control part (17), upon receiving said handover  
procedure start notification (RQ1a), pauses a communication between said one of said  
plurality of wireless channel control parts (15) and said voice communication control part  
(17) (S7) and applies a mute control to said voice CODEC so as not to output a sound  
(NT4, S8), and when said handover procedure on said wireless channel is completed,  
20 switches to a communication between said another of said plurality of wireless channel  
control parts (16) and said voice communication control part (17) (RP1, RP2, NT3, S9)  
and removes said mute control to said voice CODEC (NT5, S10).

11. A telecommunications method using a mobile station (11),

25 said mobile station (11) comprising:

a plurality of wireless channel control parts (15, 16); and  
a voice communication control part (17) for controlling a voice CODEC (10);

wherein

each of said plurality of wireless channel control parts (15, 16) is a wireless  
5 channel control part employing a different wireless communications method,

said method comprising the steps of:

(a) prompting one of said plurality of wireless channel control parts (15) to  
transmit to another of said plurality of wireless channel control parts (16) and to said  
voice communication control part (17) notifications (NT1, RQ1a) that a handover  
10 procedure to said another of said plurality of wireless channel control parts (16) is started,  
when said one of said plurality of wireless channel control parts (15) receives a handover  
request (IM1) from a corresponding network (7);

(b) prompting said another of said plurality of wireless channel control parts  
(16) to communicate with another corresponding network (8) to complete a handover  
15 procedure on a wireless channel (IM2a through IM2d, IM3), when said another of said  
plurality of wireless channel control parts (16) receives said handover procedure start  
notification (NT1); and

(c) prompting said voice communication control part (17) to pause a  
communication between said one of said plurality of wireless channel control parts (15)  
20 and said voice communication control part (17) and apply a mute control to said voice  
CODEC so as not to output a sound (NT4, S8) when said voice communication control  
part (17) receives said handover procedure start notification (RQ1a), and switch to a  
communication between said another of said plurality of wireless channel control parts  
(16) and said voice communication control part (17) (RP1, RP2, NT3, S9) and remove  
25 said mute control to said voice CODEC (NT5, S10), upon completion of said handover

procedure on said wireless channel.

12. A telecommunications system, comprising:

5 a mobile station (11),

a network (7); and

another network (8), wherein

said mobile station comprises:

a plurality of wireless channel control parts (15, 16); and

10 a voice communication control part (17) for controlling a voice CODEC (10);

wherein

each of said plurality of wireless channel control parts (15, 16) is a wireless channel control part employing a different wireless communications method,

one of said plurality of wireless channel control parts (15), when receiving a handover request (IM1) from said corresponding network (7), transmits to another of said 15 plurality of wireless channel control parts (16) and to said voice communication control part (17) notifications (NT1, RQ1a) that a handover procedure to said another of said plurality of wireless channel control parts (16) is started,

said another of said plurality of wireless channel control parts (16), upon receiving said handover procedure start notification (NT1), communicates with said 20 another corresponding network (8) to complete a handover procedure on a wireless channel (IM2a through IM2d, IM3),

said voice communication control part (17), upon receiving said handover procedure start notification (RQ1a), pauses a communication between said one of said plurality of wireless channel control parts (15) and said voice communication control part 25 (17) (S7) and applies a mute control to said voice CODEC so as not to output a sound

(NT4, S8), and upon completion of said handover procedure on said wireless channel, switches to a communication between said another of said plurality of wireless channel control parts (16) and said voice communication control part (17) (RP1, RP2, NT3, S9) and removes said mute control to said voice CODEC (NT5, S10).